



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,172	04/22/2004	Kenji Terao	016891-0866	6043
22428	7590	06/26/2007	EXAMINER	
FOLEY AND LARDNER LLP			HA, DAC V	
SUITE 500			ART UNIT	PAPER NUMBER
3000 K STREET NW			2611	
WASHINGTON, DC 20007				
MAIL DATE		DELIVERY MODE		
06/26/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/829,172	TERAO, KENJI	
	Examiner Dac V. Ha	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 April 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 April 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities:

Claim 4, line 2, the recitation "the power control unit" should be changed to "a power control unit" to avoid potential antecedent problem.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jager (US 6,330,433) in view of Strolle (US 6,154,503).

Regarding claim 1, Jager discloses:

"a plurality of antennas" (Fig. 3, elements 110, 112);

"an antenna switching unit for switching an antenna to another" (Fig. 3, element 336);

"a receiver for amplifying a received signal" (Fig. element 316);

"a power calculator for calculating received signal power" and "a memory for storing the calculated power values" (Fig. 3, element 324; col. 6, lines 49-67, where the "memory" is inherently taught by Jager by the calculation of average RSSI);

"a power determining unit for selecting an antenna which receives the largest signal power; and wherein the received signal is received during a high speed operation when the receiver starts" (Fig. 3, elements 324 and 336; col. 6, line 27 to col. 7, line 57; and that the controlling occurs during normal operation of the receiver).

Jager differs from the claimed invention in that Jager doesn't explicitly discloses amplifying the received signal "under automatic gain control". That is Jager show a variable gain amplifier 316, but does not elaborate on its control. Strolle, in the same field of endeavor, discloses that such "automatic gain control" (AGC) is well-known and widely used in the art of communication (Figl. 1, element 100). Therefore, it would have been obvious to one skilled in the art at the time of the invention to easily incorporate an AGC circuit into Jager to automatically control the gain of the amplifier to make the system even more robust and accurate.

Regarding claim 2, Strolle further discloses "a gain calculator for calculating a gain based an output from the receiver" in Fig. 1, element 100.

Regarding claim 3, the claimed subject matter "wherein the gain calculator outputs the gain to the power calculator and the gain controller" would have been easily realized by one skilled in the art based on the aforementioned combination since the received signal (i.e. quality, strength, etc.) is used for both controls.

Regarding claim 4, Jager further discloses "wherein the power control unit controls the antenna switching unit to switch the antenna" in Fig. 3, element 324.

Regarding claims 5-7, these claimed subject matter would have been obvious to one skilled in the art as implementation specific, and would have been easily realized by one skilled in the art based on the aforementioned combination.

Regarding claim 8, Jager discloses "an average power ... the receiver" in Fig. 3, element 324; col. 6, lines 49-67; col. 7, lines 47-52.

Regarding claim 9, see claim 8.

Regarding claims 10, 12, see claim 1 above.

Regarding claims 13-18, see claims 2-9 above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chang et al. (US 5,692,019)

Ramesh et al. (US 6,226,507)

Lahti et al. (US 7,171,175)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 5/4.

Art Unit: 2611

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor; Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Dac V. Ha".

Dac V. Ha
Primary Examiner
Art Unit 2611